U2050 Wavelength Conversion Module

Data sheet

- Input: 1.9 µm – 5.3 µm
- Output: 682 nm – 886 nm
- High conversion efficiency
- Extremely low noise

The NLIR U2050 Wavelength Conversion Module converts the mid-infrared wavelengths 1.9 – 5.3 µm to the near-infrared wavelengths 682 – 886 nm without any need for alignment. It is just fiber in and fiber out.

	Broad-band	Narrow-band
Optical bandwidth	1900 – 5300 nm	-
Center wavelength	-	2.7 – 5.0 µm
Spectral linewidth (1)	-	20 – 300 nm
Conversion efficiency (2), approx	0.0005	0.1
Optical input (3)	SMA fiber port	
Polarization direction	Vertical	
Maximum operating temperature	30 °C	
Physical dimensions (H x L x W)	100 x 306 x 200 mm	
Weight	5 kg	
Mounting	4 x 1" posts	

(1) The spectral linewidth depends on the center wavelength; higher center wavelengths implies higher minimum bandwidth (at 4.2 µm the bandwidth is 300 nm).
(2) Note that the low conversion efficiency for broad-band version also applies to the noise at the mid-infrared wavelengths.
(3) Optimized for 200 µm diameter fiber with N/A 0.26.
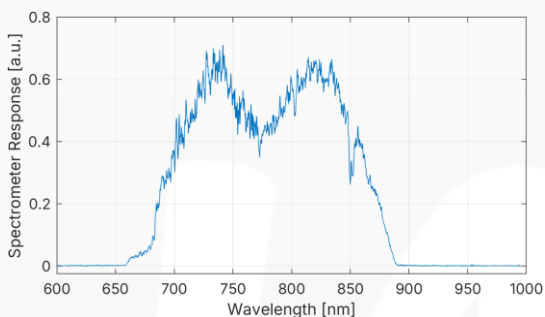
Easily view infrared light with existing lab equipment

The NLIR Wavelength Conversion Module provides a simple an effective way of utilizing conventional VIS-NIR equipment that many labs already have available. The plot to the left shows the output of the Module on a VIS/NIR grating spectrometer at 70 ms exposure time. The input the fiber-coupled NLIR thermal light source L1280; the light between 1.9 µm and 5.3 µm is converted.

Use together with high-end commercial devices

The NLIR Wavelength Conversion Module works seamlessly with fiber-coupled near-infrared devices commercially available. In the picture to the right, the Module is shown together with an Avantes AvaSpec-ULS4096CL-EVO, a high-end spectrometer with 4096 pixels and high sensitivity. This combo enables easy measurement of mid-infrared with the quality of conventional near-infrared technology.

Got any questions or need a quote? Do not hesitate to contact us at info@nlir.com.